

(EXAMPLE) [D-3-1]

Consider a flow over a flat plate: 5 cm long (in the flow direction) and 1 m wide. The freestream conditions correspond to the standard sea-level with the airspeed of 120 m/s.

- If this is entirely "**laminar**" flow, determine the followings:
 - (a) The boundary layer thickness (δ) at the trailing edge ($x = L$) of the plate (in "m").
 - (b) The total skin friction drag force (D_f) developed on the plate (in "N").
- If this is entirely "**turbulent**" flow, determine the followings:
 - (c) The boundary layer thickness (δ) at the trailing edge ($x = L$) of the plate (in "m").
 - (d) The total skin friction drag force (D_f) developed on the plate (in "N").

Note that "total" means the drag force developed by both "top" and "bottom" surfaces ("total" surface) of the flat plate.

Lined area for notes, consisting of multiple horizontal dashed lines.